

# NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES

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### PART Env-Wm 1402 CONTROL OF ABOVEGROUND PETROLEUM STORAGE FACILITIES

Statutory Authority: RSA 146-A:11-c

Env-Wm 1402.01 Purpose. The purpose of these rules is to minimize contamination of the waters and land of the state due to the improper storage and handling of motor fuels, heating oils, lubricating oils, insulating oils, other petroleum products, and petroleum-contaminated liquids by establishing requirements for the registration, design, installation, operation, maintenance, and monitoring of above-ground petroleum storage facilities.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

Env-Wm 1402.02 Applicability.

(a) These rules shall apply to the following above-ground oil storage facilities:

- (1) Those facilities having a single tank system with an oil storage capacity of more than 660 gallons, intended for storage, transfer, or distribution of oil, and
- (2) Those facilities with a combined oil storage capacity of more than 1,320 gallons, intended for storage, transfer, or distribution of oil, wherein the combined oil storage capacity shall be determined by adding together all tank systems and drums with an oil storage capacity of 55 gallons or more, intended for storage, transfer, or distribution of oil.

(b) The following types of above-ground oil storage systems shall not be subject to the rules contained in this part:

- (1) Any tank system(s), with a combined oil storage capacity of 1,320 gallons or less, containing heating oil used only for on-premise heating of structures;
- (2) Any storage tank designed for and containing any liquid which is gaseous at atmospheric temperature and pressure;
- (3) Any flow-through system which is integral to the operation of equipment, such as manufacturing process equipment, elevators, trash compactors, and vehicle lifts, through which there is a steady, variable, recurring, or intermittent flow of oil during the operation of the equipment, not including tank systems used for the storage of oil prior to the introduction of the oil into the production process or equipment or for the storage of finished products or by-products that contain oil;
- (4) Oil-transmission pipelines subject to the Natural Gas Pipeline Safety Act of 1968 or the Hazardous Liquid Pipeline Safety Act of 1979;
- (5) Any stormwater or wastewater collection, treatment, or discharge system;
- (6) Any storage system where 10 percent or more of the total volume of the tank(s) and associated piping is in contact with soil and below the surface of the ground;
- (7) Any storage tank containing radioactive material regulated under the Atomic Energy Act of 1954;
- (8) Tanks that are used for emergency spill or overflow containment systems that are immediately emptied after introduction of oil;
- (9) Non-stationary equipment that contains oils for operational purposes; and

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(10) Mobile tanks engaged in transporting oil from one facility to another and which are required to meet applicable requirements of the United States Department of Transportation and the New Hampshire department of safety.

(c) The following types of above-ground oil storage systems shall not be subject to the rules contained in this part other than the requirements noted:

(1) Tank systems designed and used to store oil which is in the solid phase at atmospheric temperature and pressure, subject to the requirements listed in Env-Wm 1402.31.

(2) Oil-filled electrical equipment, subject to the requirements listed in Env-Wm 1402.32; and

(3) Any temporary AST system at a construction site meeting the applicability of Env-Wm 1402.02(a) and existing only for the specific duration of the construction contract for which it is used, subject to the requirements listed in Env-Wm 1402.37.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.03 Definitions.

(a) “Aboveground Storage Tank” (“AST”) means a device constructed of impermeable material(s), designed to wholly enclose oil and which is not considered a tank in an underground storage tank system as regulated by RSA 146-C and Env-Wm 1401.

(b) “AST facility” means a facility having one or more ASTs that are subject to this part.

(c) “AST system” means one or more ASTs in combination with piping, pumps, containment structures, monitors, or other appurtenances, used to contain, receive, or dispense oil.

(d) “Calculated maximum safe fill height” means the fill height corresponding to the rated capacity of a tank minus the volume that can be filled at the maximum possible system fill rate multiplied by the time it takes to completely stop product flow into the tank or 2 minutes, whichever is greater.

(e) “Cathodic protection system” means a system used to reduce the corrosion of a metal surface by making that surface the cathode of an electrochemical cell using either a sacrificial anode or impressed current system.

(f) “Cathodic protection tester” means an individual who is certified by NACE International or the International Code Council as being qualified to test cathodic protection systems.

(g) “Closure” means permanently taking a tank out of service with the intent to not introduce oil to or otherwise use the tank for dispensing or storage of oil.

(h) “Compatible” means the ability of 2 or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of a tank system under conditions likely to be encountered at an AST facility.

(i) “Connected piping” means all piping, including valves, elbows, joints, flanges, fittings, and flexible connectors, attached to an AST system through which oil may flow.

(j) “Corrosion expert” means an individual who is either certified by NACE International at the cathodic protection specialist level, or who is a professional engineer with education and experience in corrosion control on buried metal systems.

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- (k) “Department” means the New Hampshire department of environmental services.
- (l) “Discharge” means “discharge” as defined in RSA 146-A:2, I-a. namely, “the release or addition of any oil to land, groundwater or surface water.”
- (m) “Existing AST system” means an AST system installed, or for which installation had begun, before April 25, 1997.
- (n) “Facility” means “facility” as defined in RSA 146-A:2, IX namely, “a location, including structures or land, at which oil is subjected to treatment, storage, processing, refining, pumping, transfer, or collection.” This term includes “AST facility”.
- (o) “Field-constructed AST” means an AST which is constructed by assembling on-site at a facility.
- (p) “Floodway” means “regulatory floodway” as defined in 44 CFR 59.1, namely “the channel of a river or other watercourse and the adjacent land area that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.”
- (q) “Heating oil” means petroleum that is:
- (1) No. 1, No. 2, No. 4-light, No. 4-heavy, No. 5-light, No. 5-heavy, or No. 6 technical grade of fuel oil, and that is not a “used oil” as defined in Env-Wm 110.01(c)(135);
  - (2) Any other residual fuel oil which is not a “used oil”, such as Navy Special Fuel Oil and Bunker C; and
  - (3) Used as a substitute for one of the fuels listed in (1) or (2), above.
- (r) “Impermeable” means a characteristic of a substance that prevents the natural transfer of oil from one medium to another.
- (s) “Impressed current system” means direct current supplied to a cathodic protection system using an external power source.
- (t) “Motor fuel” means petroleum or a petroleum-based substance which is typically used in the operation of a motor vehicle or aircraft engine, including:
- (1) Gasoline and reformulated gasoline;
  - (2) Aviation gasoline;
  - (3) Diesel fuel and diesel fuel blends such as bio-diesel; and
  - (4) Jet fuel.
- (u) “New AST system” means an AST system for which the construction or installation had begun on or after April 25, 1997.
- (v) “Oil” means “oil”, as defined in RSA 146-A:2, III, namely “petroleum products and their by-products of any kind, and in any form including, but not limited to, petroleum, fuel, sludge, crude, oil refuse or oil mixed with wastes and all other liquid hydrocarbons regardless of specific gravity and which are used as motor fuel, lubricating oil, or any oil used for heating or processing. The term ‘oil’ shall not include natural gas, liquefied petroleum gas or synthetic natural gas regardless of derivation or source.”
- (w) “Oil-filled electrical equipment” means devices containing oil which are used in the generation, transmission, or distribution of electrical power, such as transformers, oil circuit breakers,

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capacitors, and voltage regulators.

(x) “Operator” means a person who has responsibility for the care, custody, and control of the daily operation of an AST facility.

(y) “Out of service” means a facility or portion thereof no longer in use, but which the owner or operator of the facility intends to return to use. Facilities or tank systems which are used for seasonal storage, for surcharge storage, or for standby storage, are not to be considered “out of service”.

(z) “Owner” means the person in possession of or having legal ownership of a facility.

(aa) “Permeability” means the ease with which fluid can move through a material and is measured by the rate of flow in suitable units.

(ab) “Pipe” means an impermeable hollow cylinder or tubular conduit that conveys or transports oil, or is used for venting, filling, or removing oil or oil vapors.

(ac) “Professional engineer” means “professional engineer”, as defined in RSA 310-A:2, II, namely “a person who by reason of advanced knowledge of mathematics and the physical sciences, acquired by professional education and practical experience, is technically and legally qualified to practice engineering, and who is licensed by the [New Hampshire] board [of engineers] or otherwise authorized [under RSA 310-A] to engage in the practice of engineering.”

(ad) “RCRA” means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 USC section 6901 et seq.

(ae) “Release detection” means electronic or manual measurement of the AST system which notifies the operator of the failure of a system’s ability to contain liquid.

(af) “Release prevention” means a program of routine, documented, and visual inspection which is designed to identify the potential for a discharge of oil to the environment and the subsequent action to ensure the release does not occur.

(ag) “Sacrificial anode system” means a system to control corrosion of a metal surface which entails installing an electrode of an electrochemical cell that will oxidize preferentially to the metal surface that has been made the cathode of the electrochemical cell.

(ah) “Secondary containment” means a device or system or a combination of devices or systems which include(s) a surface specifically designed to contain a release from spreading vertically or horizontally to the environment after discharge from an AST or its appurtenances.

(ai) “Shop-fabricated AST” means an AST which is constructed at a tank manufacturer’s plant and transported to a facility for installation.

(aj) “Special Flood Hazard Area” or “SFHA” means the area of land that has a one percent or greater chance of being flooded in any given year, better known as the 100-year flood. The term includes those areas delineated on a Flood Insurance Rate Map as a Zone A, and in coastal areas as Zone V.

(ak) “Spill Prevention, Control, and Countermeasure Plan” or “SPCC Plan” means the written plan required for oil storage facilities as described in 40 CFR Part 112.

(al) “Substantial design change” means any alteration to the location, materials, or configuration of any components of the AST system that will have a tangible affect on the AST system’s ability to prevent, detect, or contain a potential release from the tank or its appurtenances.

(am) “Substantial modification” means one or more of the following changes to a facility:

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- (1) One or more AST systems have been added;
- (2) An AST system has been replaced, taken out of service, or permanently closed; or
- (3) An AST system from which there has been a release reportable under Env-Wm 1600 has been replaced, repaired, or permanently closed.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.04 Reference Standards.

(a) Referenced standards shall be available for inspection at the Department of Environmental Services, 29 Hazen Drive, Concord, NH and from the sources noted.

(b) Subject to (j), below, owners subject to this part shall comply with citations used in this part that refer to the publications listed in (c) through (i), below.

(c) From the American Petroleum Institute (API), 1220 L Street, NW, Washington, DC 20005-4070, (202) 682-8000, <http://www.api.org>, the following shall apply:

- (1) Standard Number 620 - "Design and Construction of Large Welded Low-Pressure Storage Tanks", tenth edition, 2002;
- (2) Standard Number 650 - "Welded Steel Tanks for Oil Storage" tenth edition, 1998;
- (3) Recommended Practice 651 - "Cathodic Protection of Aboveground Petroleum Storage Tanks", second edition, 1997;
- (4) Standard Number 653 - "Tank Inspection, Repair, Alteration, and Reconstruction", third edition, 2001;
- (5) Recommended Practice 1615 - "Installation of Underground Petroleum Systems", fifth edition, 1996;
- (6) Recommended Practice 1632 - "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems" third edition, 1996, reaffirmed June 2002; and
- (7) Standard Number 2610 - "Design, Construction, Operation, Maintenance, and Inspection of Terminal and Tank Facilities", first edition, 1994.

(d) From NACE International, 1440 South Creek Drive, Houston, Texas 77084-4906, (281) 228-6200, <http://www.nace.org>, the following shall apply:

- (1) Standard Number RP-0169-2002 - "Control of External Corrosion on Underground or Submerged Metallic Piping Systems"; and
- (2) Standard Number RP-0285-2002 - "Control of Underground Storage Tank Systems by Cathodic Protection".

(e) From the office of the state fire marshal, 33 Hazen Drive, Concord, New Hampshire 03301, (603) 271-3294, <http://www.state.nh.us/safety/firesafety/codefire.html>, Saf-C 6000, State Fire Code, shall apply.

(f) From Underwriters Laboratories (UL), 333 Pfingsten Road, Northbrook, Illinois 60062-4169, (877) 854-3577, <http://www.ul.com>, the following shall apply:

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- (1) UL 142 “Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids” eighth edition, 2002;
- (2) UL 2080 “Standard for Fire Resistant Tanks for Flammable and Combustible Liquids”, first edition, 2000;
- (3) UL 2085 “Standards for Protected Aboveground Tanks for Flammable and Combustible Liquids”, second edition, 1997; and
- (4) UL 2245 “Standard for Below-Grade Vaults for Flammable Liquid Storage Tanks”, first edition, 1999.

(g) From the Petroleum Equipment Institute (PEI), P.O. Box 2380, Tulsa, Oklahoma 74101-2380, (918) 494-9696, <http://www.pei.org>, the following shall apply:

- (1) RP200 – “Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling”, revised 2003; and
- (2) RP300 - “Recommended Practices for Installation and Testing of Vapor Recovery Systems at Vehicle Fueling Sites”, revised 2004.

(h) From the Steel Tank Institute (STI), 570 Oakwood Road, Lake Zurich, Illinois 60047, (847) 438-8265, <http://www.steeltank.com>, the following shall apply:

- (1) STI SP001-03 - “Standard Inspection of In-Service Shop Fabricated Aboveground Storage Tanks for Storage of Combustible and Flammable Liquids”, first edition 2000, revised 2003.

(i) From the National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, Massachusetts 02169-7471, (617) 770-3000, <http://www.nfpa.org>, the following shall apply:

- (1) NFPA 30 - “Flammable and Combustible Liquid Code”, 2003 Edition;
- (2) NFPA 30A - “Code for Motor Fuel Dispensing Facilities and Repair Garages”, 2000 Edition; and
- (3) NFPA 31 - “Standard for the Installation of Oil-Burning Equipment”, 2001 Edition.

(j) Where there is any conflict amongst these rules and any of the referenced standards, the most stringent shall apply.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.05 Registration.

(a) The owner of any AST facility subject to these rules shall register all AST systems at the facility with the department. For an AST facility at which 55-gallon drums comprise part or all of the ASTs at the facility, the owner shall not register each individual 55-gallon drum but instead shall register the storage area(s) for the drums.

(b) To register an AST system, the owner shall provide the following information to the department on the form provided by the department or an equivalent:

- (1) Name, mailing address, and daytime telephone number of the owner of the facility;

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- (2) Location by street address, municipality, tax map and lot number and, if known, the GPS coordinates of the AST system(s);
  - (3) Intended use of the AST system(s);
  - (4) Name, job title, mailing address, and daytime telephone number of the operator in charge of the AST systems at the facility;
  - (5) A description of each AST system at the facility, including:
    - a. Status of each AST in the system;
    - b. Date of AST system installation;
    - c. Total capacity of each AST in the system;
    - d. Construction material of each AST in the system;
    - e. Construction material and location of the piping;
    - f. Contents of each AST in the system;
    - g. Description of AST system supports, if any, and height above grade.
  - (6) A statement of whether each AST in the system is out of service as defined in Env-Wm 1402.03 or has been removed or dismantled;
  - (7) Date of current SPCC plan as required in this part; and
  - (8) A plan view dimensioned drawing of the facility of sufficient detail to locate the ASTs with respect to the property lines and any buildings or other structures located on the property.
- (c) The owner shall sign and date all registration submittals.
- (d) The owner shall report to the department in writing any significant change in the information presented on the original registration form within 30 days of the change.
- (e) For the purpose of (d), above, “significant change” means:
- (1) Any addition or reduction in the aggregate oil storage capacity at the facility;
  - (2) Any change in service as described in Env-Wm 1402.12, Env-Wm 1402.13, or Env-Wm 1402.14;
  - (3) Any change in the ownership of the facility;
  - (4) Any time the oil content of a tank is changed from a flammable liquid to a combustible liquid, as defined in NFPA 30, or vice versa;
  - (5) Any addition of release prevention or release detection measures to an AST system, such as:
    - a. The transformation from single-walled to double-walled piping;
    - b. The installation of high-level alarms;
    - c. Interstitial space monitoring devices;



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- d. The installation of secondary containment;
- e. The installation of cathodic protection; or
- f. Any other enhancement to an AST system that would reduce the possibility of an oil release from impacting human health, safety, or the environment; or

(6) Any other change that affects the information provided to register the AST.

(f) No person shall operate an AST facility that is subject to these rules which is not registered with the department.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.06 Change in Use.

(a) The owner of any AST facility which would become subject to these rules due to a change in the use of any system or a change in the use of the property shall comply with these rules before instituting the changed use.

(b) The owner shall register the facility with the department prior to putting any oil in the ASTs.

(c) The owner of an AST system shall submit an amended registration form to the department no later than 30 days after taking an AST system out of service or removing or dismantling an AST system.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.07 Transfer of Ownership.

(a) When a transfer of ownership of an AST facility occurs, the new owner shall file an amended registration form with the department no later than 30 days after the transfer.

(b) The seller/former owner shall deliver to the buyer/new owner all available documents and information related to the ASTs, facility, or AST system, such as:

- (1) Product inventory records;
- (2) Any approved plans for new installations;
- (3) Copies of registration forms;
- (4) Testing data and reports;
- (5) Reports documenting AST system closure and removal;
- (6) Tank lining specifications used, if applicable;
- (7) Monitoring records;
- (8) Soil and/or groundwater sampling and laboratory chemical analyses reports;
- (9) Site assessment reports;
- (10) Equipment maintenance schedules and logs;
- (11) Repair records;

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(12) Records of oil discharges; and

(13) Any other records required to be maintained by Env-Wm 1402.34.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

Env-Wm 1402.08 Owner Responsibility. The owner may delegate responsibilities imposed by Env-Wm 1402 to a person responsible for the day-to-day operation of the facility. Delegation shall not relieve the owner from liability for non-compliance with these requirements.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.09 Inventory Monitoring.

(a) The owner of an AST system where any portion of the primary tank shell, primary piping, or both, is in contact with the ground, soil, or concrete foundation slab and does not have release detection pursuant to Env-Wm 1402.28 shall conduct monthly inventory monitoring .

(b) The owner of an AST system that is subject to inventory monitoring shall maintain separate written records for each AST or interconnected system, and shall certify the accuracy of the inventory monitoring by signing the records.

(c) AST inventory control measurements shall be reconciled by comparing product measurements with shipments, deliveries, and internal transfers.

(d) The owner shall investigate and resolve the cause of any significant loss in inventory, such as any unexplained difference of 2.0 percent or more of throughput in one month, as indicated by the recording and reconciliation of inventory records.

(e) If an unexplained physical loss of oil is evident following the investigation, the owner shall notify the department in accordance with RSA 146-A:5.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.10 Oil Transfers.

(a) Oil transfers shall be performed in accordance with US DOT 49 CFR HM 181, part HM-126F that requires the operator of the vehicle effecting the transfer to be periodically trained to transport and handle hazardous materials.

(b) The direct transfer of oil from the cargo tank of a mobile tank truck to the cargo tank of another mobile tank truck shall be prohibited, except during an emergency situation as authorized by emergency response personnel.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.11 Suspected Discharge and Testing Requirements.

(a) When a discharge of oil from an AST system is suspected or appears probable, the owner shall:

(1) Take immediate action in accordance with the facility Spill Prevention, Control and Countermeasure Plan;

(2) Notify the department in accordance with Env-Wm 1600; and

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(3) Within 90 days of discovery:

- a. Take the AST system out of service in accordance with Env-Wm 1402.12;
- b. Replace the AST system, ensuring that the replacement AST system meets all standards for new AST systems described in this part; or
- c. Repair the AST system, ensuring that the repaired AST system meets all standards for new AST systems described in this part, and inspect and test the AST system for tightness and structural soundness using an appropriate testing method.

(b) The appropriate testing method shall be recognized by a national tank, standards, or petroleum industry association referenced in Env-Wm 1402.04, such as:

- (1) For field-constructed ASTs, API 653; or
- (2) For shop-fabricated ASTs, API 653 or STI SP001-03.

(c) The owner shall notify the department of actions taken and the results of any testing performed in accordance with (a)(3)c., above within a reasonable amount of time not to exceed 90 days of its being performed.

(d) Notification shall include the following:

- (1) Description of actions taken;
- (2) Location of the tested AST;
- (3) Date of the test;
- (4) Reason for the test;
- (5) Type of testing employed;
- (6) The identity and qualifications of the person performing the test; and
- (7) Results of the testing.

(e) Testing shall be performed by or under the supervision of an individual certified by industry associations such as API or American Society of Mechanical Engineers.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.12 Out of Service AST Systems.

(a) If oil is not introduced to or removed from an AST system designed and intended for the throughput of oil for 36 months or more, the tank system shall be taken out of service.

(b) Those AST systems intended solely for storage, such as back-up tanks for emergency power generation or long-term energy reserves, shall be considered out of service when the contents of such a tank has remained at the lesser of the following for the previous 36 months:

- (1) One percent of the total system capacity or less; or
- (2) Less than 3 inches in depth.

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(c) The owner of an AST system taken out of service shall:

- (1) Remove all oil from the AST and connected piping;
- (2) Secure the AST to prevent unauthorized entrance or tampering so that oil is not accidentally or intentionally introduced into the tank, by means such as securely bolting and locking all manways and valves or capping or plugging fill lines, gauge openings, or pump lines;
- (3) Thoroughly clean the interior of the tank and all associated piping of all sludge, solids, and residual oil;
- (4) Dispose of all oily wastes removed from the AST system in accordance with all applicable state and federal requirements; and
- (5) Render the tank free of vapors sufficiently to avoid formation of an explosive atmosphere, and ensure the tank is vented to ensure the tank remains vapor free.

(d) Upon taking an AST system out of service, the owner shall:

- (1) Comply with Env-Wm 1402.06 relative to notifying the department of a change in use; and
- (2) Prominently stencil on the tank the words “out of service” in large, easily visible block letters; and
- (3) Prominently post and securely affix the tag described in (e), below, at the fill pipe connection serving the out-of-service tank, or, if the fill pipe is also used to fill active tanks, at the first valve after the fill pipe connection used to divert flow to the out-of-service tank.

(e) Tags used to signify an out-of-service tank system shall be provided by the department. The tag shall remain affixed to the AST system during the entire time the tank is out of service. The owner shall promptly replace any mutilated, lost, illegible, or destroyed tag by contacting the department.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.13 Reactivating Out of Service Tank Systems.

(a) No person shall place an AST system which has been taken out of service back into service, nor shall oil be introduced into the system, until the owner certifies to the department in writing that the system is in compliance with applicable rules.

(b) Any person who reactivates an AST system which has been out of service shall notify the department by amending the registration form required by Env-Wm 1402.05 no later than 30 days after putting the AST system back into service.

(c) Prior to being placed back into service, the AST system shall be thoroughly inspected and tested for evidence of the following conditions:

- (1) Corrosion of the interior or exterior of the tank or associated piping;
- (2) Abnormal thinning of the tank walls or bottom;
- (3) Perforations through the tank walls or bottom; and
- (4) Any other condition that would indicate a weakening of the structural integrity of the

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AST system or identify a situation which could result in a release from the AST system.

(d) All such testing and inspections shall be conducted in accordance with Env-Wm 1402.11 and Env-Wm 1402.29.

Source. #6500, eff 4-25-97; ss by #8359, eff 5-28-05

### Env-Wm 1402.14 Removal of AST Systems.

(a) The owner of property containing an AST system shall clean the AST system pursuant to Env-Wm 1402.12(c) and remove the AST system from the property no later than:

- (1) The date on which a shop-fabricated AST system has not had oil introduced to or removed from it for 10 years; or
- (2) The date on which a field-erected AST system has not had oil introduced to or removed from it for 15 years.

(b) An owner who has dismantled and removed an AST system shall notify the department not later than 30 days after beginning the planned removal, by submitting an amended registration form described in Env-Wm 1402.05.

(c) If, during the tank closure, there is evidence of soil or groundwater contamination from oil detected by assessment, observation, or analysis, the owner shall notify the department immediately and shall comply with all requirements of Env-Wm 1600.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.15 Site Assessment After Removal.

(a) After dismantling and removing an AST system in which any tank, valve, pump, or section of piping was in contact with the ground and which did not have impervious containment, or where there is evidence that oil has been released from the AST system, the owner of the AST system shall assess the site to determine whether there is soil or groundwater contamination, or both, attributable to the AST system.

(b) The assessment to determine if any contamination is present shall be performed using the following investigative methods, as applicable, for the assessment:

- (1) Test pits shall be excavated or soil borings advanced in the immediate vicinity of the AST system, and representative soil or groundwater samples shall be obtained;
- (2) Soil or groundwater samples shall be obtained from the ground surface immediately beneath the tanks, the test pits or soil borings, and beneath the adjacent system piping; and
- (3) All release detection devices or subsurface monitoring locations shall be sampled.

(c) The soil or groundwater samples shall be screened for the presence of contamination in the field using sensory observation and an organic vapor analyzer.

(d) A subset of those soil and groundwater samples screened which are representative of the conditions found in the vicinity of the facility subject to the investigation shall be submitted to a laboratory certified pursuant to Env-C 300 for analysis. The subset of screened samples submitted for laboratory analysis shall include a sample obtained from the same location as the screened sample which contained the highest concentration of volatile organics.

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(e) Samples shall be analyzed for:

- (1) Volatile organic compounds (VOC) and total petroleum hydrocarbons (TPH) if the system stored motor fuels other than diesel fuel;
- (2) TPH and polycyclic aromatic hydrocarbons (PAHs) if the system stored diesel fuel, fuel oils, or asphalt; or
- (3) For AST systems that stored waste oil:
  - a. TPH and PAHs using the appropriate EPA test method; and
  - b. The RCRA metals, listed in Env-Wm 403 using the toxicity characteristics leaching procedure (TCLP) as defined in method 1311 of SW-846, "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods", Third edition, November 1986 as amended by Update I, July 1992; Update IIA, August 1993; Update II, September 1994; and Update IIB, January 1995.

(f) Laboratory analysis methods for the analyses described in (e), above, shall be as to the method prescribed in Env-Wm 1600.

(g) Results of the assessments performed under (b) and (c), above, and the laboratory analysis of samples performed under (d) and (e), above, shall be submitted to the department within 60 days of the AST system dismantling.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.16 Used Above-ground Storage Tanks.

(a) A tank which has been removed shall not be reinstalled for the purpose of oil storage unless it meets all applicable standards for new tanks contained in Env-Wm 1402.18 and Env-Wm 1402.20 at the time the tank is to be installed. Such tanks shall be reinstalled and tested in accordance with this part.

(b) If a used tank meets the standards for new tanks, it may be reinstalled for oil storage only after:

- (1) A thorough internal and external cleaning and inspection determines that it is free of pinholes, cracks, structural damage, or excessive corrosion; and
- (2) The tank is determined to be structurally sound by a professional engineer or an inspector certified by API under the API 653 certification program to perform AST system inspections.

(c) If a shop-fabricated tank is to be disposed of as scrap, it shall first be tested for vapors, rendered vapor free, if necessary, and punched with holes to make it unfit for storage of liquids.

(d) Tanks or AST systems shall not be reused for the storage of food or potable water.

(e) A tank which has been designed for installation as an underground storage tank shall not be installed or used as an AST.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.17 Requirements for Approval of AST Systems and Piping.

(a) At least 45 days prior to commencing construction or installation of a new or replacement AST system with an oil storage capacity of more than 660 gallons that is subject to these rules, or new or

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replacement underground or over-water piping systems, the owner shall submit to the department complete plans and specifications that have been prepared and stamped by a professional engineer.

(b) Plans and specifications shall include, as applicable:

- (1) A plan view depiction of the AST system to be installed;
- (2) Details showing the proposed method of overfill protection and secondary containment;
- (3) The design of the proposed cathodic protection system, if applicable;
- (4) Description of the AST(s) to be installed, including dimensions, capacity, construction, manufacturer's name and address, model number, supplier's name and address, and any other information that completely describes the AST;
- (5) Description of piping to be used, including pipe diameters, materials, connections, and piping diagrams, as applicable;
- (6) A locus showing the relation of the AST system to the site and the site to the surrounding area, which identifies all water wells, surface water bodies, and source water protection areas within 500-feet of the proposed AST system; and
- (7) Any other information that will accurately convey the intended AST system configuration and show compliance with Env-Wm 1402.18 through 1402.28.

(c) Within 45 days of receipt of a complete set of plans and specifications, the department shall:

- (1) Approve the plans if they demonstrate compliance with the requirements of this part; or
- (2) Issue a notice of incompleteness or disapproval for plans which are incomplete or do not demonstrate compliance with this part, respectively.

(d) Construction shall not begin unless written approval is received from the department in accordance with this section.

(e) During construction, an owner shall not cause or allow a substantial design change which is not in accordance with the approved plans and all terms and conditions of the department's approval.

(f) All substantial design changes shall be approved in writing by the design engineer of record and resubmitted for department approval.

(g) An approval shall be valid for one year from the date of issuance. If construction of the AST system is not initiated within one year of approval, the approval shall lapse. For the purpose of this rule, initiated shall mean construction equipment commonly used in facility or system construction has been mobilized to the site and that materials used in the construction of facility or tank system have been delivered to the site. An owner may request a waiver from the one-year expiration period in accordance with Env-Wm 1402.36.

(h) Department approval for installation of an AST system shall not eliminate the need to obtain applicable approvals and/or permits from the authority(ies) enforcing the state fire code, the state building code as defined in RSA 155-A:1, IV, and any applicable local building codes.

(i) The owner shall notify the department to arrange for an inspection prior to introducing oil into a newly constructed AST system and prior to backfilling an underground piping system.

(j) Once the department determines that the newly constructed AST system has been installed in accordance with the approved plans, Env-Wm 1402.40, and meets the intent of Env-Wm 1402.18 through

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Env-Wm 1402.28, the department shall grant formal approval to operate the new AST system.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

Env-Wm 1402.18 Tank Standards for New AST Systems.

- (a) All new ASTs regulated under this part that do or will contain oil shall:
- (1) Be constructed of steel; and
  - (2) Meet or exceed the following design or manufacturing standards, as applicable:
    - a. UL 142, for shop-fabricated steel tanks;
    - b. API Standard 620, for field-constructed, low pressure steel tanks;
    - c. API Standard 650, for shop-fabricated and field-constructed atmospheric steel tanks;
    - d. UL 142 and UL 2080, for fire resistant tanks;
    - e. UL 2085, for protected tanks;
    - f. UL 2245, for below-grade vaults;
    - g. PEI/RP 200, for motor fuel dispensing facilities;
    - h. PEI/RP 300, for vapor recovery systems at motor fuel dispensing facilities; and
    - i. API Standard 2610, for AST facilities and terminals.
- (b) Pursuant to Saf-C 6000, the State Fire Code, all new AST systems shall be located, designed, and installed in accordance with the following requirements, as applicable:
- (1) NFPA 30A, for AST systems used in the storage of oil at automotive and marine service stations;
  - (2) NFPA 31, for AST systems used in the storage of oil directly associated with on-premise-use heating of the facility, pursuant to RSA 146-E:4; or
  - (3) NFPA 30, for all other AST systems subject to this part.
- (c) All new ASTs in contact with the ground shall be placed on an impermeable barrier. The integrity of the barrier shall not deteriorate due to exposure to the elements or soil in the presence of oil.
- (d) Tank barriers shall be constructed of:
- (1) An impermeable material such as a 60 mil high-density polyethylene or a material of similar or more stringent specifications; or
  - (2) A double bottom with the annular space continually monitored for the presence of leakage in accordance with Env-Wm 1402.25.
- (e) Continuous corrosion protection shall be installed in accordance with Env-Wm 1402.20 for any steel or other metal in contact with the ground.
- (f) Each AST regulated under this part, other than 55-gallon drums having no piping, shall be marked with information regarding the product stored and system specifications, as follows:



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- (1) All lettering shall be at least 2 inches high and shall be painted in a color contrasting with the color of the tank;
- (2) The appropriate national fire rating system symbol as established by NFPA 704, Identification of the Fire Hazards of Materials for Emergency Response, 2001;
- (3) The tank number, which corresponds to the tank number identified on the facility registration(s) as described in Env-Wm 1402.05; and
- (4) The safe fill volume or safe fill height of the tank which corresponds to the height at which the high level alarm is activated, in the same units as indicated on the tank gauge.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.19 Piping Standards for New AST Systems.

- (a) All new piping associated with an AST system shall be constructed above ground where possible. Piping systems not in contact with the soil shall be constructed in accordance with API 2610, NFPA 30, and as recommended by the manufacturer.
- (b) All piping materials shall be compatible with the oil that is to be stored in the AST system, according to manufacturer's recommendations.
- (c) All fill pipes leading to a pump-filled oil tank shall be equipped with a properly functioning check valve or equivalent device which provides automatic protection against backflow whenever the piping arrangement of the fill pipe is such that backflow from the receiving tank is possible.
- (d) Each tank connection through which oil can normally flow shall be equipped with an operating valve to control flow unless the tank connection is located at a point higher than the highest liquid level in the tank, such as at the top of a horizontal tank. The valve shall be located as close as practicable to the shell of the tank.
- (e) All above ground piping up to 12 inches National Pipe Thread (NPT) size shall be constructed of:
  - (1) Carbon steel, schedule 40 or greater;
  - (2) Stainless steel, schedule 40 or greater;
  - (3) Galvanized steel, schedule 40 or greater; or
  - (4) Type L or K annealed copper tubing, except as noted in (m), below.
- (f) All above ground piping greater than 12 inches NPT size shall be of standard grade according to ASTM A134-96(2001).
- (g) All joints on steel piping 2 inches NPT size or greater shall be welded or welded flanged.
- (h) All piping, fittings, and connections that are either in contact with the soil or completely buried shall have secondary containment pursuant to Env-Wm 1402.22, and:
  - (1) Be constructed of fiberglass reinforced epoxy, carbon steel, thermoplastic material extrusions, stainless steel, galvanized steel, or type K annealed copper tubing, except as noted in (m) below; and

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(2) Conform to the following standards as applicable:

- a. Fiberglass reinforced epoxy piping shall meet ASTM Specification D-2996-01, Standard Specification for Filament Wound Fiberglass Pipe, and UL Subject 971, "Non-Metallic Underground Piping for Flammable Liquids". Ultimate sheer strength of adhesive and curing agent shall be in compliance with ASTM D-2517-05, as approved and supplied by the manufacturer.
- b. Thermoplastic extrusion flexible piping shall meet UL Standard for Non-Metallic Underground Piping for Flammable Liquids, 1995, Subject 971;
- c. Steel piping shall:
  - 1. Have a galvanized coating;
  - 2. Be schedule 40 or heavier; and
  - 3. Have secondary containment.
- d. Metal secondary containment for steel piping shall have protective wrapping or di-electric coating and shall be cathodically protected by an impressed current system or sacrificial anode system.
- e. Stainless steel piping shall:
  - 1. Be schedule 40 or heavier; and
  - 2. Have secondary containment.
- f. Metal secondary containment for stainless steel piping shall have protective wrapping or di-electric coating and shall be cathodically protected by an impressed current system or sacrificial anode system.

(i) All steel or metallic piping in contact with or completely surrounded by soil shall be cathodically protected by an impressed current system or sacrificial anode system. Steel piping installation shall meet standards in API Recommended Practice 1615 "Installation of Underground Petroleum System".

(j) Any cathodic protection system for the piping shall be designed and installed in accordance with Env-Wm 1402.20.

(k) If metal pipe is totally electrically isolated from the soil via secondary containment sufficient to place the pipe in a non-corrosive environment, cathodic protection of the piping shall not be required.

(l) New underground piping systems shall be designed, constructed, and installed with access and isolation points to permit independent pressure testing of piping without the need for excavation.

(m) Copper tubing shall not be used in AST system applications requiring the use of:

- (1) Piping greater than 1/2 inch NPT size; or
- (2) Piping to transfer oil under pressure.

(n) Copper tubing that is not completely exposed to the atmosphere shall be contained in a continuous non-metallic sleeve or otherwise protected from damage and corrosion.

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Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

Env-Wm 1402.20 Corrosion Protection for New Steel Tanks and Piping.

(a) Corrosion protection for AST bottoms in contact with the soil shall:

- (1) Consist of sacrificial anode system or an impressed current system designed, fabricated, and installed in accordance with API recommended practice 651 or NACE standard number RP-0285-2002;
- (2) Be designed and installed with oversight by a certified corrosion expert;
- (3) Be designed to provide corrosion protection for the expected active life of the AST system or have provisions to allow for the periodic rehabilitation of the anode system; and
- (4) Have a test station or other method of monitoring which enables the owner to confirm that the cathodic protection system is operating properly.

(b) Sacrificial anode systems shall be tested within 6 months of installation and every 3 years thereafter by a cathodic protection tester.

(c) Monitors for impressed current systems shall be checked monthly. Checks of impressed current systems may be performed by verifying that electrical current is continuing to flow through the system.

(d) If at any time the monitor or testing shows that the electrical current necessary to prevent corrosion is not being maintained, the source of the failure shall be investigated and the system restored within 60 days.

(e) Corrosion protection for piping systems shall be designed and constructed in accordance with NFPA 30, API 1615, API 1632, or NACE RP-0169-2002, as applicable.

(f) The exterior surfaces of all tanks and exposed piping shall be painted or coated to prevent corrosion or other deterioration. Such coatings shall be maintained in good condition.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

Env-Wm 1402.21 Secondary Containment for New AST Systems.

(a) No person shall construct or operate any new AST system without secondary containment.

(b) New secondary containment shall be constructed so that spills will not permeate into the soil more than one foot in 72 hours, or infiltrate or otherwise escape to the groundwater or surface waters before cleanup occurs.

(c) Secondary containment shall consist of a combination of dikes, liners, pads, ponds, impoundments, curbs, ditches, sumps, receiving tanks, or other equipment capable of containing the product stored.

(d) The storage capacity of the secondary containment shall be of sufficient volume to contain the entire contents of the largest single tank, and if not covered to prevent the collection of stormwater, shall additionally contain the greater volume of the following:

- (1) 10 percent of the capacity of the largest tank within the enclosure; or

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(2) The volume of precipitation that would fall within the containment area within 24-hours during a 10-year storm event as determined by the rational method as described in the Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire, dated August 1992, for determining stormwater runoff, if the containment area is not roofed or otherwise protected from the accumulation of precipitation.

(e) If secondary containment consists of diking surrounding the tank, construction of diking shall be in accordance with NFPA 30.

(f) Secondary containment lining materials shall be constructed and maintained to meet permeability requirements for the operational life of the AST.

(g) The provisions of (a) through (f), above, shall not apply to any tank that is located inside a building, provided:

(1) The installation of the tank complies with NFPA 30 or NFPA 31, as applicable;

(2) The entire floor of the room in which the tank and its associated piping is located is constructed of concrete or an impervious material;

(3) The floor does not have any floor drains, cracks, or openings that would permit the migration of oil through the floor; and

(4) A release of the total contents of the tank will remain confined to the room in which the system is situated.

(h) A double-walled tank may be used in lieu of the requirements of (b) through (e), above, if the double-walled tank is installed with all of the following:

(1) Overfill protection as required in Env-Wm 1402.24;

(2) Interstitial monitoring, as required in Env-Wm-1402.25 (a) and (b);

(3) A mechanically operated automatic fill shut-off valve located in the fill bung of the tank, or an oil transfer pump with an independent high-level detection system that will automatically shut down the transfer pump and prevent flow of oil to the tank and will be activated:

a. When the tank is filled to 95 percent of the total capacity of the tank for tanks with a storage capacity of 12,000 gallons or less; or

b. When the tank is filled to one percent less than the calculated maximum safe fill height for tanks with a storage capacity of greater than 12,000 gallons; and

(4) An ability to contain an overfill from the vent pipe.

(i) If not roofed or otherwise protected from the accumulation of precipitation, the secondary containment area shall be equipped with a manually-controlled pump or siphon or a gravity drain pipe which has a manually-controlled valve, to remove stormwater that collects within the secondary containment system.

(j) All pumps, siphons, and valves shall be maintained in good condition to prevent stormwater from leaking from the system. If gravity drain pipes are used, all valves shall be locked in a closed position except when the operator is in the process of draining water from the area. Gravity drain pipes shall be designed and constructed to prevent a release in the event of fire.

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(k) All piping passing through secondary containment walls shall be sealed around the outside of the piping with an impervious compatible material to prevent the discharge of oil through the walls.

(l) Secondary containment liners constructed of natural materials shall be tested and certified by a professional engineer during installation to ensure the permeability standard specified in (b), above, such as by ASTM D2434-68 (2000) and ASTM D2922-04, D5084-03, or equivalent method.

(m) Tanks installed after the effective date of the 2005 revisions to these rules that have vents that are located such that an overfill will not be contained within the secondary containment shall have additional overfill protection pursuant to Env-Wm 1402.21(h)(3).

(n) All tank fill connection points installed after the effective date of the 2005 revisions to these rules that are not otherwise within secondary containment shall have covered spill containers with a minimum capacity of 5-gallons installed in order to prevent the release of oil to the environment when a transfer hose is detached from a fill or transfer pipe.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.22 Secondary Containment for New Piping for AST Systems.

(a) All new piping that is in contact with or buried beneath the ground surface shall have secondary containment such as:

- (1) Double-wall piping; or
- (2) An engineered piping trench system.

(b) All system piping extending over the surface waters of the state not regulated by the U.S. Coast Guard pursuant to 33 CFR 154 shall have double-wall piping as secondary containment.

(c) Piping systems with secondary containment shall be continuously pitched to direct any leakage from the primary piping to a liquid-tight containment sump monitored for leaks pursuant to Env-Wm 1402.25(d).

(d) Dispenser systems installed after the effective date of the 2005 revisions to these rules that are supplied by underground or over water piping shall be equipped with a liquid-tight containment sump monitored for leaks pursuant to Env-Wm 1402.25(d).

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

Env-Wm 1402.23 Transfer Pumps. The base of oil transfer pumps shall not be placed directly on the ground surface. Oil transfer pumps shall be secured to and separated from the ground surface by a concrete pad or other impermeable barrier and firmly secured to a foundation capable of supporting the weight of the pump and the mechanical stresses commonly associated with the operation of the pump.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.24 Overfill Protection.

(a) All AST systems shall be equipped with a mechanical gauge or other measuring device which accurately shows the level of product in the tank and is visible to the person controlling the transfer of oil.

(b) All AST systems shall have a high level warning alarm, operating independently of the tank

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gauge, that is both audible and visible to the person controlling the transfer of oil.

(c) The high level warning alarm shall be activated:

(1) For tanks with a storage capacity of 12,000 gallons or less, when the tank is filled to 90 percent of the total capacity of the tank; or

(2) For tanks with a storage capacity of greater than 12,000 gallons, when the tank is filled to 3 percent less than the calculated maximum safe fill height.

(d) A vent alarm may be used in lieu of the requirements for (b), above, in AST systems with an oil storage capacity of 660 gallons or less, having a tight fill connection, and where the opening for the vent pipe is located no more than 10 feet from the fill pipe connection and is audible and visible to the person controlling the transfer of oil.

(e) The requirements of this section shall not apply to the following containers when not connected to other containers:

(1) Drums less than 60 gallons in size; and

(2) Intermediate bulk containers or overpack drums as identified in NFPA 30, section 4.1.1.1.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.25 Interstitial Leak Monitoring for New AST Systems.

(a) Any interstitial spaces, including but not limited to those located in double-walled tanks, double-walled piping, and double bottoms that are installed as part of new or upgraded AST facilities, shall be equipped with interstitial monitoring equipment.

(b) The interstitial monitoring equipment shall be capable of detecting a discharge of oil, or intrusion of water into the interstitial space. The monitoring equipment shall be constructed so groundwater, rainfall, or soil moisture will not render the testing or sampling methods used inoperative.

(c) The requirements of (a) and (b), above, shall not apply to double-walled tanks that are not in contact with the soil and that are completely surrounded by a dike or other means of secondary containment as described in Env-Wm 1402.21.

(d) Interstitial monitoring equipment for double-wall piping shall consist of a continuously operating sump sensor with alarm that is both visible and audible to the AST system operator.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.26 Installation of New Above-ground Storage Tank Systems.

(a) AST systems shall be installed according to the manufacturer's requirements and national and industry codes based on plans approved by the department in accordance with Env-Wm 1402.17.

(b) Installation of items having no manufacturer's requirements shall be installed according to:

(1) PEI Recommended Practice 200 for the installation of ASTs used for the refueling of motor vehicles;

(2) PEI Recommended Practice 300 for the installation of vapor recovery systems;

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(3) API 2610 for the installation of bulk oil storage facilities; and

(4) API 620 and API 650 for field-constructed tanks.

(c) AST systems shall be located and spaced according to the requirements described in Env-Wm 1402.18(b).

(d) New AST systems shall not be constructed within the floodway portion of the 100-year special flood hazard area.

(e) New AST systems and associated pipes and distribution equipment shall not be located along highway curves or otherwise exposed to traffic hazards without suitable protection. For the purposes of this rule, suitable protection shall mean protection that will protect against an impact equal to the design speed of the roadway.

(f) New AST systems shall be physically protected from vehicular collision by fencing, barriers, or bollards. Bollards shall be spaced no more than 4 feet apart. All barriers shall be painted with a reflective paint or be partially covered with a reflective tape.

(g) Before being placed in service, all tanks and piping, whether new or reconditioned, shall be tested for tightness and inspected in accordance with the requirements specified in API Standard 653 or NFPA 30.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.27 Requirements for Oil Transfer Areas.

(a) All areas where oil is transferred from a truck, railcar, or other vehicle engaged in the transport of oil to an AST system shall be constructed of a concrete pad or other impermeable surface. This concrete pad or impermeable surface shall be constructed of sufficient size so that all connection points are situated over the impermeable area when the transfer of oil is occurring.

(b) All areas where oil is transferred from an AST system to a truck, railcar, or other vehicle engaged in the transport of oil shall be constructed of a concrete pad or other impermeable surface. This concrete pad or impermeable surface shall be constructed of sufficient size so the entire tank portion of the oil transport vehicle being filled is situated over the impermeable area when the transfer of oil is occurring.

(c) All dispensing areas first used after the effective date of the 2005 revisions to these rules where oil is transferred from an AST system to the fuel tank of a motor vehicle shall be constructed of a concrete pad or other impermeable surface.

(d) The concrete pad or impermeable surface required by (c), above, shall be:

(1) Constructed of sufficient size so the entire motor vehicle being fueled, not counting any trailers, is situated over the impermeable area when the transfer of oil is occurring; and

(2) Equipped with positive limiting barriers constructed and maintained to contain a volume of at least 5 gallons for each dispenser.

(e) Dispensing nozzles shall not extend beyond the positive limiting barriers required by (d)(2), above.

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Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.28 Release Detection for AST Systems.

(a) The owner of a new AST system identified below shall provide the prescribed methods to detect a release from the tank and associated piping, as applicable:

(1) Beneath a tank that is not completely raised above ground level, perforated gravity collection pipes or channels that can be monitored for the presence of a release; or

(2) Beneath a vertical tank, a finished concrete pad that extends completely beneath the tank and has a series of channels measuring no more than 1.5 inches wide and 0.75 inches deep extending radially outward from the center of the pad to beyond the edge of the tank.

(b) All pressurized piping systems installed after the effective date of the 2005 revisions to these rules that are in contact with or buried beneath the ground surface, or that extend over surface water, shall be equipped with a UL-listed line leak detector capable of detecting a line leakage rate of 3 gallons per hour at 10 pounds per square inch, and shall automatically shut-off or restrict product flow if the leakage rate is exceeded.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.29 Inspection and Reporting Requirements for AST Systems.

(a) The owner of an AST facility shall inspect the facility at least monthly by:

(1) Inspecting exterior surfaces of tanks, secondary containment vessels, pipes, valves and other associated equipment for deficiencies such as leaks, surface wetting, discoloration, blistering, or evidence of corrosion, cracks, chime distortion, or other structural damage;

(2) Inspecting for and identifying cracks, areas of wear, visible shell thinning, evidence of poor maintenance and operating practices, excessive settlement of structures, separation or swelling of tank insulation, malfunctioning equipment, and structural and foundation weaknesses; and

(3) Inspecting visible system components, such as the alarm box, of all high-level alarms and monitoring all leak detection systems which may be in place at the facility.

(b) The owner of an AST facility shall inspect overfill and interstitial alarm sensors, by removing the sensors from the tank and activating them, no less than once every 12 months.

(c) The owner or operator shall perform a detailed inspection of the interior of any tank in an AST system having a capacity of 5,100 gallons or more in accordance with the schedule specified in (d) below, and the procedures specified in (e) below.

(d) Detailed inspections of tank interiors as described in (e), below, shall be performed in accordance with the following schedule:

(1) For tanks where any part of the shell is in contact with the ground, the initial inspection for previously uninspected tank systems shall be performed when the tank is 10 years old;

(2) For tanks where the tank shell is entirely off the ground, such as tanks on racks or in cradles, the initial inspection for previously uninspected tank systems shall be performed when the tank is 20 years old; and



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(3) Following the initial inspection, an inspection shall be performed at least every 5 years for tank systems containing gasoline, and at least once every 10 years for tank systems containing other motor fuels, heating oils, and fuel oils during the in-service life of the tank.

(e) Detailed interior tank inspections shall consist of:

(1) Cleaning the tank such that all visible evidence of liquids, sludges, by-products, solids, and the like are removed and the interior surface of the tank is completely visible;

(2) Removing, transporting, and disposing of sludge in a manner consistent with all applicable state and federal requirements;

(3) Entering the tank to determine its suitability for continued service in accordance with API 653; and

(4) A tightness test of any connecting underground pipes in accordance with NFPA 30 or manufacturer's specifications.

(f) Existing tanks greater than 5,100 gallons that are not equipped with a manhole or other manufactured means of accessing the interior of the tank shall have a means of entry installed and shall have an initial detailed interior inspection performed pursuant to (e), above, in accordance with the schedule in (d), above, or within 3 years of the effective date of the 2005 revisions to this part, whichever is later.

(g) Reports of each monthly inspection and detailed interior inspection shall be maintained and made available to the department in accordance with Env-Wm 1402.34.

(h) If any inspection reveals a leak, a tank or equipment deficiency, a deficiency in monitoring equipment, an indication that the thickness of the tank shell or floor has thinned beyond the minimum criteria as described in API 653, or any other deficiency which has caused a reasonable expectation that a reportable release as defined in Env-Wm 1600, has occurred or is imminent, the owner shall notify the department, and shall promptly implement remedial measures to eliminate the leak or deficiency.

(i) All detailed interior tank inspections shall be performed by an API certified inspector or a professional engineer with knowledge of tank testing procedures.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.30 Spill Prevention Control and Countermeasure Planning.

(a) An owner of an AST facility subject to this part shall prepare and implement a Spill Prevention, Control, and Countermeasure (SPCC) Plan. The SPCC Plan shall be a written document establishing release prevention measures and effective response procedures for releases from the AST systems.

(b) The SPCC Plan shall be prepared as described in 40 CFR Part 112 "Oil Pollution Prevention" and shall be certified by a professional engineer.

(c) An SPCC Plan shall not be required for an AST facility having a total storage capacity not exceeding 1,320 gallons if the facility otherwise meets all new system standards of this part, has covered secondary containment, and is not used for refueling water craft.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

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### Env-Wm 1402.31 AST Systems Containing Oil that is a Solid at Atmospheric Temperature and Pressure.

(a) AST systems containing oil that is in the solid phase at atmospheric temperature and pressure shall be registered in accordance with Env-Wm 1402.05.

(b) AST systems containing oil that is in the solid phase at atmospheric temperature and pressure shall have markings in accordance with Env-Wm 1402.18(f) and a product level gauge in accordance with Env-Wm 1402.24(a).

(c) Owners wishing to construct new or replacement AST systems containing oil that is in the solid phase at atmospheric temperature and pressure shall obtain plan approval in accordance with Env-Wm 1402.17 prior to construction of the AST system.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.32 Oil-Filled Electrical Equipment.

(a) All facilities with oil-filled electrical equipment containing more than 660 gallons of oil shall be registered with the department in accordance with Env-Wm 1402.05.

(b) Owners of facilities with oil-filled electrical equipment containing more than 660 gallons of oil shall prepare and maintain a spill prevention control and countermeasure plan in accordance with Env-Wm 1402.30.

(c) All new facilities containing oil-filled electrical equipment greater than 660 gallons shall have a method of preventing a release of oil from the equipment to surface waters or groundwater of the state.

(d) Such a method shall include:

- (1) The installation of an impermeable barrier in the soil beneath equipment;
- (2) The installation of a structure, such as a collection sump that conveys all liquids to an oil-water separator for treatment; or
- (3) Some other engineered solution that will meet the performance standard of paragraph (c), above.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.33 Stormwater Management Requirements.

(a) Stormwater which collects and is retained within a secondary containment area shall be removed by a manually-activated pump or siphon, or a gravity drain pipe.

(b) Pumps, siphons, plugs, or valves shall be maintained in good condition.

(c) If gravity drains are used, valves shall be fixed and locked in the closed position except when a controlled discharge is occurring.

(d) Stormwater or other controlled discharge from the oil transfer containment area or from within a secondary containment structure for a tank at a facility shall be free from an oil sheen before being discharged to the environment.

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(e) Stormwater which is contaminated with oil shall be treated prior to discharge. All stormwater discharges shall be performed in accordance with all applicable local, state, and federal requirements.

(f) Accumulated stormwater shall be drained as soon as practical and frequently enough to ensure that sufficient containment volume is always available to contain a release from the largest tank being contained.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.34 Recordkeeping Requirements.

(a) All records required to be kept pursuant this part shall be maintained in permanent form for the period specified below and shall be made available for inspection by the department at the facility.

(b) If records are not kept at the facility, they shall be available at the facility or other mutually agreed upon location upon 5 working days notice.

(c) The owner shall maintain the following records for a period not less than 3 years:

(1) Results of monthly inspections of the facility required under Env-Wm 1402.29;

(2) Copies of all correspondence from the department, the New Hampshire state fire marshal, or the local fire department relating to the facility; and

(3) Records of the type of oil stored in each tank and the date of any applicable conversion.

(d) The owner shall maintain the following records on an ongoing basis:

(1) Dates and description of replacement of permanent components and substantial modification to AST systems;

(2) Results of all tightness tests performed on piping associated with the AST systems;

(3) A copy of the facility registration(s) and any amendments. If a facility registration form has not been amended within 10 years, the most recent registration shall be retained;

(4) Copies of all approved plans for the facility pursuant to Env-Wm 1402.17;

(5) Closure assessment reports; and

(6) Results of all detailed AST system inspections at the facility required under Env-Wm 1402.29.

(e) If the ownership of any AST facility changes, all documentation required by (c) and (d), above, and any other records relating to the systems shall be transferred at the time of transfer from the person conveying the facility to the person accepting ownership of the property.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.35 Upgrading of AST Systems.

(a) All AST systems and all piping that is in contact with the soil, underground, or over water, shall have secondary containment in accordance with Env-Wm 1402.21 and Env-Wm 1402.22. For systems installed prior to the effective date of the 2005 revisions to this part, the secondary containment shall be installed within 3 years of the effective date of the 2005 revisions to this part.

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(b) Such upgrades shall be certified by a professional engineer as meeting the permeability and containment volume standards specified in Env-Wm 1402.21 and Env-Wm 1402.22.

(c) Plans for replacement of underground or over water piping shall be submitted to the department for approval in accordance with Env-Wm 1402.17.

(d) All on premise use heating oil systems existing as of the effective date of the 2005 revisions to these rules that are newly regulated due to the exemption in Env-Wm 1402.02(b)(1) being changed to 1,320-gallons of capacity or less, shall have 3 years from the effective date of the revision to this part to become compliant with this part.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

### Env-Wm 1402.36 Waivers.

(a) An owner may request a waiver of any requirement in this part in accordance with (b) below.

(b) All requests for waiver shall be submitted in writing to the department and shall include the following information:

- (1) A description of the facility to which the waiver request relates, including the name, address, and registration number of the facility;
- (2) A specific reference by section number to a requirement for which a waiver is being sought;
- (3) A full explanation of why a waiver is being sought;
- (4) A full explanation of the alternatives to the requirement(s) for which a waiver is sought, with backup calculations and the data for support, if applicable; and
- (5) A full explanation of how the granting of the waiver is consistent with the intent of RSA 146-A and Env-Wm 1402.

(c) The department shall approve a request for waiver upon finding that:

- (1) The alternatives proposed are at least equivalent to the specific requirements contained in the rule; or
- (2) If the alternatives proposed are not equivalent to the requirements contained in the rule, they are adequate to ensure that the intent of RSA 146-A is met and that public health and the environment will be protected.

(d) The department shall issue a written response to a request for a waiver within 60 days of receipt of the request. If the request is denied, the response shall specify the reason(s) for the denial.

Source. #6500, eff 4-25-97; ss by #8333, INTERIM, eff 4-23-05, EXPIRES: 10-20-05; ss by #8359, eff 5-28-05

Env-Wm 1402.37 Temporary AST Systems at Construction Sites Temporary AST systems at construction sites existing only for the specific duration of the construction contract for which it is used shall:

(a) Be registered in accordance with Env-Wm 1402.05, and include the contract start and completion dates;

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- (b) Be marked in accordance with Env-Wm 1402.18(f);
- (c) Have secondary containment in accordance with Env-Wm 1402.21;
- (d) Be equipped with a gauge in accordance with Env-Wm 1402.24(a); and
- (e) Be equipped with either a high level warning alarm in accordance with Env-Wm 1402.24(b) or a mechanically operated automatic fill shut-off valve in accordance with Env-Wm 1402.21(h)(3)

Source. #8359, eff 5-28-05

### Env-Wm 1402.38 Requirements for Persons Installing AST Systems.

- (a) Within 2 years of the effective date of the 2005 revisions to this part, any person supervising the installation of an AST system or AST system component shall be certified for AST installation and retrofitting by the International Code Council (ICC).
- (b) The installation supervisor shall provide a written certification of his or her involvement in the AST system or AST system component installation to the department prior to operational approval being granted pursuant to Env-Wm 1402.17(i). The written certification shall include all pressure test results and the installation supervisor's name and ICC AST certification number.
- (c) Information on obtaining certification for installation and retrofitting may be obtained from the International Code Council (ICC), Los Angeles District Office, 5360 Workman Mill Road, Whittier, California 90601-2298, (800) 423-6587 ext. 3419, <http://www.iccsafe.org>.

Source. #8359, eff 5-28-05

### Env-Wm 1402.39 Mobile Tanker Use at a Facility or by the Military.

- (a) If normal facility operations require a mobile tank truck to be used to deliver fuel to the fuel tanks of stationary equipment, off-road earthmoving equipment, military tactical vehicles, parked aircraft, or parked refrigeration trailers, then mobile tanker use is authorized at the facility and shall be exempt from regulation under this part except that the requirements of Env-Wm 1402.10(b) shall apply.
- (b) Except as allowed by (a), above, mobile tank trucks and trailers shall not be used for the purpose of on-site storage of oil at a facility.
- (c) Except as allowed by (d), below, mobile tank trucks and trailers shall not be used for the purpose of refueling on-road motor vehicles.
- (d) The use of mobile tank trucks by military personnel to support military vehicles in convoy shall be allowed provided that there is an applicable oil spill and response plan, prepared pursuant to 49 CFR 130.31, which requires:

- (1) The use of portable flexible containment areas; and
- (2) Proper containment and disposal of any spilled oil.

Source. #8359, eff 5-28-05

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## Appendix

Rule Section(s)	State Statute(s) Implemented	Federal Requirement(s) Implemented
Env-Wm 1402 (see also specific sections listed below)	RSA 146-A:11-c, I, III, IV, V, V-a; RSA 541-A:22, IV	40 CFR Part 112
Env-Wm 1402.01		40 CFR Part 112
Env-Wm 1402.02		40 CFR Part 112
Env-Wm 1402.05		40 CFR Part 112
Env-Wm 1402.06	RSA 153:5	40 CFR Part 112
Env-Wm 1402.08		40 CFR Part 112
Env-Wm 1402.09	RSA 153:5	
Env-Wm 1402.10	RSA 153:5	US DOT HM 181, part HM-126F
Env-Wm 1402.16	RSA 153:5	
Env-Wm 1402.18	RSA 153:5	40 CFR Part 112
Env-Wm 1402.19	RSA 153:5	40 CFR Part 112
Env-Wm 1402.20	RSA 153:5	40 CFR Part 112
Env-Wm 1402.21	RSA 153:5	40 CFR Part 112
Env-Wm 1402.22		40 CFR Part 112
Env-Wm 1402.23		40 CFR Part 112
Env-Wm 1402.24	RSA 153:5	40 CFR Part 112
Env-Wm 1402.25	RSA 153:5	40 CFR Part 112
Env-Wm 1402.26	RSA 153:5	40 CFR Part 112
Env-Wm 1402.27	RSA 153:5	40 CFR Part 112
Env-Wm 1402.28		40 CFR Part 112
Env-Wm 1402.29		40 CFR Part 112
Env-Wm 1402.30		40 CFR Part 112
Env-Wm 1402.31	RSA 153:5	40 CFR Part 112
Env-Wm 1402.32	RSA 153:5	40 CFR Part 112
Env-Wm 1402.33		40 CFR Part 112
Env-Wm 1402.34		40 CFR Part 112
Env-Wm 1402.35	RSA 153:5	40 CFR Part 112
Env-Wm 1402.36	RSA 541-A:22, IV	
Env-Wm 1402.37	RSA 153:5	40 CFR Part 112
Env-Wm 1402.39	RSA 153:5	